

B.TECH. (AEROSPACE ENGINEERING) (BTAE)**Term-End Examination****June, 2014****BAS-006 : COMPUTER FUNDAMENTALS***Time : 3 hours**Maximum Marks : 70*

Note : Question No.1 is compulsory. Attempt any six questions from Q. No. 2 to 10.

1. Answer the followings : (TM) 10x1=10
- (a) Expand ENIAC, EDSAC.
 - (b) Convert $(0.6875)_{10}$ to binary.
 - (c) Define CPU and ALU.
 - (d) What is an entity in DBMS ?
 - (e) The cause of propagation delay is the time it takes a pulse to get through a logic device. (True / False)
 - (f) Floating point representation is used to store _____.
 - (g) A computer's memory is composed of 8k words of 32 bit each and a byte is 8 bit. How many bytes does this memory contain ?
 - (h) Pressing F8 key three times selects _____.
 - (i) Word Art is the graphic solution for word processor. (True / False)
 - (j) Which short cut-key is used to open the "Open dialog Box" ?
2. (a) Draw a block diagram of computer and explain it in detail. 7
- (b) Explain about main memory. 3

OR

- Describe the following with example. 5x2=10
- (a) Input device
 - (b) Output device
 - (c) Registers
 - (d) Primary and secondary memory
 - (e) Bus
3. (a) What are the three main purposes of operating system ? 5
- (b) Draw the UNIX file system structure and explain in brief. 5
4. Explain the following terms/phrases/keywords with the help of an example/diagram if needed : 10
- (a) Mail merge
 - (b) Logical AND function in MS Excel
 - (c) Find and Replace in MS Word
 - (d) MIN and MAX function in SQL
 - (e) Impact Printer and Non Impact Printer
- OR
- (a) Explain the difference between database key and Random access key. 5
 - (b) What is SQL ? Write SQL commands/verbs/ clause with one example. 5
 - (i) SELECT
 - (ii) UPDATE
 - (iii) DELETE
5. (a) Convert the following numbers into decimal. 8
- | | |
|-----------------------|---------------------|
| (i) $(1001001.011)_2$ | (ii) $(12121)_3$ |
| (iii) $(1032.2)_4$ | (iv) $(4310)_5$ |
| (v) $(0.342)_6$ | (vi) $(50)_7$ |
| (vii) $(8.3)_9$ | (viii) $(198)_{12}$ |
- (b) Subtract $(100111)_2$ from $(101101)_2$ 2

6. (a) Write a program to evaluate the function $y = x^N$. 5
 (b) Write a program to find the factorial of a number. 5
7. (a) What is magnetic disk ? Explain the different types of magnetic disks. 5
 (b) What is the latency of writing one 512 byte sector on a magnetic disk rotating at 5400 rpm with the following parameters : 5
 Average seek time = 12 ms
 Transfer rate = 5 MB/s
 Controller delay = 2 ms
8. (a) Describe the purpose of the Qualifiers 'const' and 'volatile'. 5
 (b) Describe the four basic data types. How could we extend the range of values they represent ? 5
9. (a) Explain any two UNIX commands with syntax. 5
 (b) Write a 'for' statement to print each of the following sequence of integers : 5
 (i) 1, 2, 4, 8, 16, 32
 (ii) 1, 3, 9, 27, 81, 243
10. What is the average time to read one sector if disk characteristic are as follows : 10
 Average seek time = 8 m sec
 Average rotational delay = 3 m sec
 Maximum rotational delay = 6 m sec
 Spindle speed = 100000 rpm
 Sector per tract = 170 sectors
 Sector size = 512 bytes
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